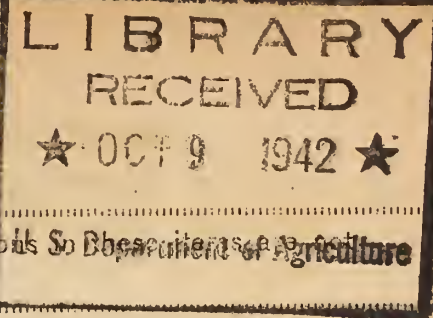


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The Digest



Prepared by the Press Service for the use of USDA employees. Views and opinions are those of the author and not necessarily approved by the Department of Agriculture.

Washington, D.C., October 5, 1942

INFLATION AND THE FARMER. (The Prairie Farmer, September 5) Inflation may appear enticing to farmers that see only the bright side of the coin, the rising prices and income in the face of lagging costs. But inflation carries with it rising land values, higher interest costs and bigger mortgages to pay off. Costs finally catch up and stay up. Taxes increase, but come down slowly, if at all. The inflationary period gives rise to extensive and intensive expansion of production. When deflation sets in the farmer finds himself over extended, caught with too much of everything to sell, squeezed between his fixed high overhead and rapidly declining prices and income. His equity may be wiped out completely. Inflation for the farmer is like a "cheap drunk" --the morning-after headache is terrible.

MEAT RATION IS PLENTY. (Science Service, September 1) The proposed meat ration of two and one-half pounds per person each week provides more than adequate nourishment. It is larger by two-thirds than the one and one-half pound per person per week ration labelled "adequate" for an indefinite period by scientists of the U.S. Bureau of Home Economics. That much smaller but nutritionally adequate ration called for "meat or fish three to four times a week," instead of the present five times. For a restricted period of time, a moderately active grown person could even get along on two servings of meat, totalling three-quarters of a pound, per week, the government scientists stated. Their recommendations were made back in the depression days when meat was plentiful but family food budgets were short. Conditions are reversed today but the scientific facts of nutrition and our need for meat and other protein foods are unchanged.

FURFURAL UNDER ALLOCATION. (War Letter for Agriculture, September 14) Another by-product of the American farm has been recognized as a critical war material with the issuance by WPB of a General Preference Order placing furfural under complete allocation and use control. Produced by the chemical decomposition of oat hulls, cottonseed hulls, and corn cobs, furfural is a highly useful industrial solvent, and component of synthetic resins. It is now of special importance in making butadiene for synthetic rubber. Supply of raw materials from which furfural is made is almost unlimited, corn cobs and oat hulls being the products of a vast number of American farms. Plants for the chemical conversion of these farm by-products are the bottleneck. To meet the synthetic rubber program, new furfural production facilities are being built by Defense Plant Corporation, and will be in operation by April 1, 1943.

OHIO FARM BUREAU CUTS MILEAGE. (Farm Journal and Farmer's Wife, September) Ohio Farm Bureau fieldmen and truckers cut down travel by 575,000 miles (220 tires' worth) during the first six months of 1942, yet handled more business this year than last. They did it by doubling up, taking every advantage of return hauls, and organizing neighborhood transportation units.

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DEMAND FOR HONEY UP. (The Fruit Products Journal and American Vinegar Industry, September) Wartime sugar restrictions have greatly increased the demand for honey as a sweetening ingredient. Prospective demand for honey, will far exceed the recent average production of about 200 million pounds. Beekeepers have increased their colonies this year but they report that wet, cool weather has kept bees inactive during much of the spring and summer flowering season.

NEW CREAM CAN COVER. (Southern Dairy Products Journal, September) One of the newer efficiency products to be announced is the sanitary cream can plastic cover marketed by Mojonnier Bros. Co. of Chicago. The new unit was designed to improve existing filling methods by providing a two-way feature -- sanitary protection and visibility in filling. It consists of a transparent plastic cover attached to the filling tube with the cover fitting over the top of the can, enabling the operator to correctly gauge the filling level without having to lift the cover, and, at the same time, preventing the moisture which condenses on the outside of the filling tube from entering the can.

FARM MACHINERY IN 1943. (Farm Journal and Farmer's Wife, September) Just what new farm machinery will be available in 1943 has not yet been determined, but it will be much less than for 1942. On the other hand, manufacture for replacement parts and repairs will be kept as unrestricted as possible. Expect to see certain changes in the way machinery is made. For instance, no tractors will be on rubber, and none of them will have starters. Starters take too much copper to allow their manufacture.

INSECTICIDES TO USE TOBACCO. (Western Tobacco Journal, September 15) Kentucky officials of the Agricultural Adjustment Administration advised today that 25,000,000 pounds of low grade tobacco will be bought for the extraction of nicotine sulphate and other by-products used in the manufacture of insecticides. Payments will be made by the Agricultural Marketing Administration to nicotine producers. Payments will equal the difference between the price processors must pay for the grades of tobacco involved and a fixed amount representing the price they can afford to pay for the raw material and still sell the finished product at ceiling prices.

HEALTH INSURANCE FOR BRITISH DAIRY HERDS. (Country Gentleman, September) England expects to save fifty million gallons of milk each year, as well as quantities of meat, by a health-insurance scheme for dairy herds--the first of its kind in the world. Chief object is to reduce losses caused by the four principal scourges of English dairy cows--mastitis, sterility, contagious abortion, and Johne's disease. By the first of the year, some thirty thousand herds comprising nearly half a million animals probably will be registered under the insurance plan.

The farmer selects his own veterinarian who examines the herd at least four times a year and makes any further visits required for a total fee ranging from about 50 cents for heifers to about \$2.50 for cows. The price includes fees for necessary treatment. The farmer, on his part, is expected to look out for the first symptoms of disease and co-operate in disease prevention.

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GRASS IS INEXPENSIVE FEED. (Coastal Cattleman, September) To those interested in seeing that the USDA food production goals are met: Approximately 40 per cent of the nutrients that produce the nation's beef, dairy, swine, sheep, goat and poultry products come from grass. Pastures supply the cheapest feed that can be grown on the farm for any kind of livestock. Figures gathered by the USDA from 16 states show that a pound of digestible nutrients obtained from pasture cost 64 cents; from alfalfa hay, 83 cents; corn, \$1.38; corn silage, \$1.54; and oats, \$2.02.

IMPROVED ELECTRIC FENCE. (Agricultural Engineering, September) The improved single-impulse electric fence is the result of investigations made at the University of California to develop a safe and effective fence controller. The principal advantage of the single-impulse electric fence controller is that it allows one, and only one, single powerful impulse electric shock to be delivered to an animal or human when it contacts the electrically charged fence wire, regardless of the duration of the time of contact. Then if for some reason the animal or human fails to free himself from contact with the fence wire after the first impulse, the sustained current is reduced to such a small amount that the effects are harmless, even if endured for a long time. In the proposed design, both the initial single-impulse shock and the sustained current are harmless to animals and to normal human beings, including children.

LEAVES TESTED FOR FOOD VALUE. (Science News Letter, September) Value of green leaves as a source of proteins and vitamins for humans and other non-ruminants, has been investigated by the British Society of Chemical Industry. Experimental results show that there are variations in the amounts of the principal vitamins in grass, depending on climate, soil, variety of grass, and other factors. Not even an enthusiast could get all his vitamin requirements from grass. Between two and four pounds of whole grass must be eaten daily to supply the necessary amount of vitamin B, for example. But it is believed that if the grass were processed for extraction of protein, certain vitamins might be recovered as a by-product.

FIBER CANS ARE POPULAR. (San Diego Poultry Journal, September 10) The fiber cans developed as substitutes for the familiar 30-lb. tins formerly used for frozen eggs, have proven so popular that makers of dehydrated foods, oleomargarine, and both liquid and semi-liquid foods -- all of which once used tin containers -- are now adopting them. Incidentally, a special type of cellophane has been developed purposely for use as a liner for the fiber frozen-egg containers. If need be, the frozen eggs can be lifted bodily from the container in their cellophane wrapper.

U.S. SELF-SUFFICIENT IN POTASH. (N.Y. Herald-Tribune) The United States is now self-sufficient in potash, the plant food for which there is no substitute in other fertilizers, it was reported by the president of the American Potash Institute, Washington. In the World War potash went to \$500 a ton. It has been imported largely from Germany. Today it is all-American and selling for \$25 a ton. The 1942 requirements, moreover, are estimated at 580,000 tons compared with 250,000 in 1914.

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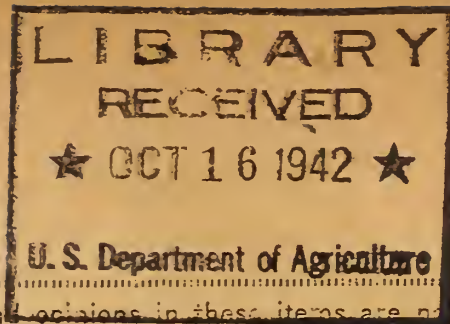
POWDERED FOOD FOR BABY. (Science News Letter, September 5) Convenient small cans of strained vegetables for babies may be out for the duration, but mothers will not be forced to cook and strain the baby's vegetables. Dried, powdered vegetables can be safely substituted for infant feeding. Convenience to American mothers is not the only result expected. Babies and small children in war-devastated regions are particularly in need of vegetables in easily digested form. Many more of them will be able to get these foods, because from eight to ten pounds of fresh vegetables are reduced to one pound by dehydration, with consequent saving in shipping space. Even two-day-old infants can be safely given the powdered, dried vegetables when suitably diluted with water.

MILK BOTTLES AID WAR BOND DRIVE. (Milk Plant Monthly, September) Even milk bottles are today actively aiding Uncle Sam in his all-out drive for war funds. One of the new handy quart bottles bears the slogan "Buy War Bonds." Millions of the patriotic bottles will be circulated to consumers throughout the nation.

REFRIGERATION IN WISCONSIN. (Ice and Refrigeration, September) Almost three out of every eight homes in Wisconsin had mechanical refrigeration in 1940 according to census figures just released. Mechanical refrigeration was provided in 36.7 per cent of the occupied dwelling units and ice refrigeration in 26.1 per cent. More than one out of three families had no refrigeration. Mechanical refrigerators were reported in 47.6 per cent of the urban homes and 34.5 per cent of the rural non farm homes, but in only 13.6 per cent of the farm homes. Electric lighting was reported in 99 per cent of the urban dwelling units, in 84.8 per cent of the rural non farm homes and in 49.3 per cent of the farm homes. The proportion of rural farm homes with a radio was 83 per cent as compared with 88.9 per cent of the rural non farm homes and 96.5 per cent of the city homes.

HERE'S WHAT HAPPENS TO SCRAP RUBBER. (Farm Machinery and Equipment, September) Here is what will happen to the rubber you have contributed to the war effort: it will be loaded into a railway car, which eventually is shunted onto a siding at a reclamation point. Here the carload containing your scrap, along with the scrap from perhaps a thousand homes and farms and garages, is routed to the plant from other areas. Let us assume that among the rubber scrap which you contributed was a worn-out tire. This tire, if it is to be reclaimed by the "alkali digestion process," the process most commonly used in the reclamation of rubber, passes into the plant, and the bead, composed largely of fabric and metal, is cut off by a "debeading" machine. Then the "scalped" tire is prepared for the "digestion" process by being cut and ground into small pieces by rapidly rotating knives and rollers. After the scrap is ground into minute pieces, it is passed over magnetic separators, which remove a large percentage of the magnetic metals, such as iron and steel. Then the scrap rubber is ready to be "digested." It is placed in steam-jacketed autoclaves equipped with devices which stir caustic soda and certain oils, which act as the "digestive juices," into a "meal" of from 2 to 4 tons of ground-up tire scrap. Once digested, the scrap must be washed. It is then put through a squeezing press to take out as much water as possible and dried. Certain ingredients are added to give the reclaimed rubber such specific qualities as may be desired. It is rolled into a very fine sheet to eliminate any unsoftened pieces and strained to remove non-magnetic metals. Finally, it is wound on rotating drums, and ends up as a square slab. These slabs, after being dusted with powder to keep them from adhering to others, are ready for use in military or essential civilian manufacture.

The Digest



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Washington, D.C., October 12, 1942

IDEAL FALL WEATHER. (Weekly Weather and Crop Bulletin, October 7)

Following the recent widespread rain and snow, with freezing weather, in the Interior and Northwest, the week just closed brought ideal conditions for drying both the soil and late crops that were frosted. Also, seasonal farm work that had been delayed in many places again got under way and made good progress where help was adequate. The full extent of damage from last week's freeze is not yet obtainable, but it was heavy to some late crops in the central and upper Mississippi Valley and south-central Great Plains, the most extensive being to soybeans, though grain sorghums were badly damaged in parts of the Plains area. More or less frost damage occurred as far east as the Appalachian Mountains, but east of the mountains there were only local freezes. Light frost has occurred as far south as the northern portions of Georgia and South Carolina and the week was too cool for best growth of fall crops rather generally in the South.

FUMIGATION SPEEDED. (Business Week, September 12) Fumigation of ships is being speeded (and accident hazards eliminated) in San Francisco by the Army, Navy, and War Shipping Administration with mobile equipment. Replacing old methods which required that men go down into the holds, release the fumigating agent, and then run for safety, the truck runs up beside the ship and pumps lethal gas into it. The truck is equipped with an electric generator, lead-lined tanks for sulphuric acid blowers, and a set of copper cyanide generators that will shoot from 3 to 200 lb. at a loading.

ARMY PREFERS 100-lb BAGS. (Food Industries, September) Since August 1, the Army is buying all of its flour in 100-lb (net weight) bags. Since rations are calculated on a per-ton basis, this method of purchase simplifies the ration conversion by the decimal system and also results in a less complicated cost accounting in bread production. Existing contracts for flour are not affected by this change. Overseas flour, which in many instances has been packed in 49-lb. units, will now be sacked in quantities of 50 lb., net weight. This is but one of many changes being put into effect by the Quartermaster Corps to simplify purchasing and accounting and to improve distribution by following the tonnage system in loading shipping space.

FIBER PLANTS FOR ROPE. (Victory, September 22) Several hundred acres a week in Panama and Costa Rica are being cut from the jungle and seeded to manila fiber plants, as one phase of the world-wide program recommended by the Combined Raw Materials Board to fill the United Nations' war needs for rope. Native grown American hemp, a good substitute for manila for some purposes, can be grown almost anywhere. Under Department of Agriculture direction, thousands of acres have been planted.

THE AMERICAN FARMER AT WAR. This is the title of a picture-article in the Sept. 22 issue of Look magazine, describing in pictures and words the part of a "typical" farm family in the Food-for-Freedom program.

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FARM MACHINERY COOPERATIVE. (Farm Journal and Farmer's Wife, September) It looked to some families in Lancaster county, Pa., as though they might have to cut plantings 15% because of the labor shortage. Instead, 25 of them organized Farmers Machinery Co-operative, Inc., borrowed \$13,100 and bought a dozen machines to be used co-operatively. It enabled them to increase crops 10%. Loan will be repaid at \$3,200 a year.

PELLETS SOLVE FEED PROBLEM. (American Miller, September) With molasses for feeds restricted, dust in feeds, particularly dairy, can become a feed problem of increasing importance. This problem is not particularly serious in the case of cows, for the reason that if there is too much dust in the feed the cow will blow it out before feeding. However, a milch goat does not seem to possess this "superior intelligence", and since it does not like dust in the feed, it merely backs away from it. The pellet seems to solve the entire dust problem in feeds, inasmuch as it naturally eliminates dust and provides a wasteless form which is easily handled and well liked by the animal.

BOTTLES STANDARDIZED. (Victory, September) Wines, jellies and preserves have been added to the list of products for which the use of standardized bottles is required. Previously, standard bottles had been established for distilled spirits and malt beverages, and schedules are now in preparation governing food products, medicines, and other commodities packed in glass containers.

AUSTRALIA PLANS DEHYDRATION. (Foreign Commerce Weekly, September 5) The establishment of cold-storage and vegetable dehydration plants in Tasmania, Australia, is being considered by the Commonwealth's Departments of Commerce and Agriculture, according to press dispatches. The storage plant would be used at first for vegetables and later for butter and fish.

NEW PACKAGES SAVE TIN. (Science Service, September 8) Glass containers for foods and other commodities formerly packed in tins have been cited as a war-time "out" of two scarcities problems by Dr. A. H. Warth of the Crown Cork and Seal Company. From the same quantity of tin-coated steel that goes to make only 265 quart cans, 14,400 closures for quart glass containers can be made, he pointed out. Thirty-pound cans of eggs, used by bakeries and restaurants, are being replaced by equal-sized packages of frozen eggs enclosed first in cellophane, then in cardboard. Each such package released a whole pound of tinned steel sheet. The only place where glass cannot compete with tin is in packing goods for Army and Navy use. Glass is too breakable for the rough handling that stores often get at sea or in the field. But civilians at home can do their share by accepting glass-packaged commodities, so that the canned goods may go up to the fighting fronts.

ONE FIFTH OF FAMILIES NOW LIVE ON FARMS. (New York Times, September) About one-fifth of the families in the United States live on farms and make their livelihood, the Census Bureau reported. There were 34,855,552 family units in the forty-eight States as of April 1, 1940, and of these 27,748,991 were non-farm families and 7,106,561 families lived on 6,096,799 farms. Of the farms, 3,749,724 reported the receipt of more than 50 percent of their revenue from the sale of field crops, livestock and dairy and poultry products.

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SALVAGE WASTE. (Dairy Record, September 9) It is estimated that from 18 to 20 tons of butterfat go down Iowa creamery sewers every month. This butterfat is in an inedible form--the grease from the wash water, the butter left after making moisture tests, and other sources of fat whose recovery ordinarily wouldn't be worth while because it couldn't be used for food, but, which, on the basis of calculations, will make two and a half tons of glycerine monthly. Glycerine is needed for making explosives, but steel and copper and rubber and all other kinds of scrap are needed, also. An industry committee has launched a campaign to recover this scrap and every dairy plant operator should assist. It is a good opportunity to help our country and at the same time to clear out some of the junk that has been an eyesore around the dairy plant.

ICE CREAM A GOOD FOOD. (The Trained Nurse and Hospital Review, September) An average serving of vanilla ice cream furnishes nearly one-sixth of the calcium needed by an adult daily and generous amounts of other minerals found in milk. Vitamin A is contained in ice cream in the greatest amount with Vitamin G (riboflavin) and B1 (thiamine) in lesser amounts. Ice cream is a comparatively low calorie dessert with an average serving of vanilla yielding about 200 calories. Other flavors furnish calories in proportion to the amount of sugar and flavorings used.

TUBERCULOSIS AND VITAMIN A. (Pathfinder, September 12) There may be some relation between tuberculosis and the vitamin A content of the lungs. Seeking to learn how vitamin A aids the body in its fight against tuberculosis, Drs. Katsampes and McCoord of the University of Rochester School of Medicine, marched tubercle germs into the noses and lungs of 120 white mice. Half of the mice received a diet rich in vitamin A and the remainder a diet with no A at all. "Within 28 days, about 60 per cent of the mice died with tuberculosis," the scientists reported. "However, the animals which received the high vitamin A diet tended to live the longer before succumbing to the infection. The lungs of the dead mice had increased to three times their natural size and were loaded with living tubercle germs. "While the lungs of normal mice contain a considerable amount of vitamin A, the lungs of the diseased mice had scarcely a trace of the vitamin. Since it was found that the vitamin had not been moved from the lungs to other parts of the body of the mice, the tubercle germs must in some way have destroyed the vitamin A. There was no indication that increased amounts of vitamin A in the diet cured our experimentally infected animals, although it did prolong their lives." Vitamin A is essential to man's health and growth. Cod liver oil, rich in it, is frequently used in treatment of t.b.

FARM EQUIPMENT EQUALS GUNS. (Farm Journal, October) Each item below provides the amount of scrap normally required for the military item following: One disc harrow = 10 anti-aircraft directors or 210 semi-automatic light carbines; One hand cornsheller = 3 6-inch shells; Sixty toothpaste tubes = Solder for electrical connections, 1 Flying Fortress; One wash pail = 3 bayonets; One sulky plow = 100 armor piercing projectiles (75 mm.); One flatiron = 2 steel helmets or 30 hand grenades; One old tractor = 580 machine guns (.30 caliber); Ten grain drills = 1 light tank; One 1-horse cultivator = 2 60-mm. mortars; Twelve mowers = 1 3-inch anti-aircraft gun; One 2-bottom tractor moldboard plow = 1 75-mm.-howitzer; One old tire = Rubber for 12 gas masks; One copper kettle = Copper for 84 rounds of ammunition for automatic rifle; One vacuum cleaner = Aluminum for seven .50 caliber machine guns.

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POWDER AND MEAT FROM GRAIN. (Science Service, September 8) Powder for the guns and meat for the men who shoot them can be obtained from the same bushels of grain. This variant of eating your cake and having it too is readily explained. First, wheat and corn are fermented to make alcohol, a necessary ingredient for smokeless powder. Then the residue, with much of the starch gone and thereby proportionately richer in muscle-building proteins, is fed to livestock. Yeasts, which of course multiply enormously during fermentation, add their contributions to this valuable feedstuff. They increase its content of vitamins and of at least three of the amino acids that are the building-blocks of protein, namely lysine, arginine and histidine. Natural grain proteins are deficient in several of these essential amino acids. The yeasts make good this lack.

600 MILLION EXTRA POUNDS CHICKEN SOUGHT. (Victory, September 22) Secretary Wickard has called upon the Nation's poultry industry to produce 200,000,000 extra chickens during the fall and winter to help supplement the supplies of meat in prospect for civilian use. The national poultry organizations suggested that 200,000,000 additional chickens be reared to a weight of at least three pounds to supply an additional 600,000,000 pounds of poultry for consumers this winter. Secretary Wickard has been assured that poultrymen and farmers, utilizing existing brooder house and other production equipment not normally used to capacity during this season, would participate in the program.

NICOTINIC ACID. (Journal of the American Veterinary Medical Association, September) Young dogs receiving a ration low in nicotinic acid, pantothenic acid and the unidentified fraction of the vitamin B complex become inactive, act like old dogs, and their hair gradually turns gray.

COMPRESSED FLOUR. (Food Industries, September) Current need for concentrated food to conserve marine shipping space is stimulating studies on mechanical compression, as well as dehydration. It is being tested out in flour for, as every flour user knows, it contains a lot of air that serves no useful end except when actually incorporated in a dough. The amount of air in flour is estimated to be about 50 percent. Efforts to remove a large portion of it by slow compression have been successful to the extent that a solid block of flour can be produced that has only two-thirds its original volume.

BETTER LUNCH BOX. (Business Week, September 12) If predictions come true, U.S. war industries will lose 90,000,000 man hours during 1942 from accidents and illness. This wasted labor would build 7,200 flying fortresses, enough conceivably to spell the difference between victory and disaster. Much of the loss is traceable to ignorance in eating--to foods that fill the belly but furnish little energy--in short, to malnutrition. Next year the showing should be better. Industry, science and government now realize that solicitude over the fighting man's diet must be extended to include the man who makes the weapons. Since the educational programs go right into the workers' kitchens and enlist the wives, here is one war activity that will pay postwar dividends.

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The Digest

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U.S. Department of Agriculture

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Washington, D. C., October 19, 1942

NEW USES FOR COTTON SOUGHT. (Canadian Textile Journal, September 25)

Several hundred experiments are now in progress which will not only expand the cotton industry's postwar markets but will broaden its contribution in the war effort. All cotton interests, agricultural and industrial, have become research-minded and are willing, mentally and financially, to support the scientific research which has long been lacking. The work is being done independently by various organizations and some of the more recent types of research conducted include: flame-proofed cotton quilts for suspension inside windows as an air raid protection and for use in extinguishing fires; cotton caulking material to replace jute oakum in ship construction; new mixtures of cotton with wool and other imported fibres; treatment of cotton rope and cord to increase tensile strength for replacement of imported hard fibres; improvement of twist of one-ply yarns for hosiery as possible substitution for two-plys; mildew-proofing of cotton fabric for sand bags and other uses; improving the drape characteristics of cotton for replacement of wool and certain imported fabrics. Further research being conducted at the present time includes: development of adhesives from cottonseed protein; adaption of low-grade cotton lint to manufacture of guncotton; expanded use of cotton feltings; conservation of fast dyes and bleaching materials; development of camouflage nettings and blackout cloths.

NEW AID IN MASTITIS CONTROL. (American Butter Review, September)

Mastitis or garget is one of the great troublemakers of the dairy industry. High bacteria counts in milk, which mean poor quality cheese and other dairy products, are frequently the result of mastitis. Milk unfit for use, which must be rejected or condemned, leading to unpleasant disputes and arguments, is another bothersome result for creameries, cheese factories, and dairy manufacturers. Today, however, a new eleven-letter word is reported to be giving some cause for optimism about mastitis. The word is tyrothricin, the name of a new microbe killer. This product, developed by the Rockefeller Institute for Medical Research, already has been in use in a small way throughout the country with reportedly good results for some time. It is said to be effectively controlling mastitis caused by streptococcus agalactiae which is found in about 90 percent of the cases of mastitis in America.

INDIANS USING HORSES. (Victory, October 6). To save gas and rubber, more than 125 saddle horses are being used by Indian Service Extension employees on at least 14 Indian reservations. In addition many Indians in the cattle country are using horses in places of automobiles wherever possible.

GROUP RIDE CLUB MEMBERS QUALIFY FOR RECAPS. (Wall Street Journal, Oct. 8) Cars of all members of a group-ride club in any war essential establishment employing over 100 persons were made eligible for recap tires or grade 3 new tires by the OPA. This action was viewed as being in line with the government's "tires for all" program. Previously, only one car for each club was eligible to receive these tires. The order became effective October 12.

October 19, 1942

USDA MENDING CLASS. (The Washington Post, September 22) Five women, all wives of Department of Agriculture officials, wanted to learn how to make their husband's woolen clothing and their own woolens last longer and wear better. They enthusiastically seconded the idea of Dr. Louise Stanley, head of the Bureau of Home Economics, when she suggested that they start a mending class, emphasizing the renovating of men's woolen suits and coats, which are apt to be expensive as well as apt to be expensive as well as hard-to-get. They learned how to "retread" knees and seats which had grown threadbare; how to fix collar backs, sleeve edges, trouser bottoms, coat-and-vest edges; how to put in a new pocket with tailorish trimness. They learned the ins and outs of professional patching--a set-in patch for strength; a "plug" for certain materials; a crochet-hook patch for burned spots. Agriculture specialists meeting recently in New York thought this mending clinic was such a good idea that they plan to base their clothing conservation program in the Eastern States on the mending of men's clothes. Suits and coats have had such a thorough face-lifting job done on them at the clinic that their wearers will get six months' to a year's more wear than expected.

TIRE GIRDLE. (American Fruit Grower, September) Something of an innovation and a direct outgrowth of the nation's rubber emergency is a new cotton cord protector for tire inner tubes that will add thousands of miles to thousands of old tires already pronounced unfit for use and ticketed for the scrap heap. The "girdle" contains no rubber and is shaped in a full circle to fit snugly and neatly around the tube, and affords the tube complete protection from chafing.

WORK SHOES, NOT GADGETS, WANTED! (Hide and Leather and Shoes, September) A young lady demonstrator working in a Detroit dime store is said to be grossing better than a thousand dollars a week in 25, 50, and 75 cent sales of a foot relief compound. Her volume is smashing all records in her field, but it is quite easily explained. Her customers come mostly from the swelling ranks of industrial workers in the industrial metropolis--and a large percentage of them are women. This report is important to shoe manufacturers for three particular reasons. First, every cure-all and gadget for the relief of aching feet that graces the counters of drug and dime stores in the country is a direct insult, rebuke, and challenge to shoemakers. If the money spent by consumers for such temporary relief from foot distress was added to the consumers' expenditures for shoes, there would be little need for these nostrums and gadgets. Second, if all shoes were as well fitted and sold as they are well designed and made, their wearers wouldn't give the foot relief counters a second glance. And, finally, if such a tremendous sales record as that reported above can be run up by catering to the tired feet of Detroit's workers, there is a crying need for a more courageous "work shoe attitude" on the part of shoemen, employers, and workers. This is particularly true in the case of footwear for working women.

MISSOURI FOURTH IN CHEESE MANUFACTURE. (National Butter and Cheese Journal, September) Missouri has moved into fourth place as a cheese-making state. During 1941 it produced 33,322,000 pound of cheese. This total, representing about 1,333 carloads of cheese, shows a remarkable growth over the 10 carloads produced in 1925. The state's production is 1,000 pounds below that of Indiana.

FERTILIZING FISH PONDS. (Hoard's Dairyman, September 25) Proper fertilization of farm fish ponds will give yields of 500 to 600 lbs. of fish per acre, while the average unfertilized pond produces only 100 to 200 lbs. Increased growth of small plant life in fertilized ponds provides more and better food for the fish. In fact, fertilization now is often considered more important than restocking. Experiments indicate that 100 lbs. of a mixed fertilizer containing 6 percent nitrogen, 8 percent phosphoric acid, and 4 percent potash per acre per application should be broadcast on top of shallow water around the edges of the pond. The 6-8-4 fertilizer should be applied every four to six weeks beginning soon after danger from floods has ended, until September. While pond fertilization takes fertilizer normally applied to field crops emphasis is being placed on use of any left-over bags of fertilizer to fertilize ponds because farm people are under heavy pressure to produce more food of all kinds to help win the war.--Du Pont Chemistry and the Farm.

FOOD PROCESSING CLOTH ASSURED. (Victory, September 29) An adequate supply of sheetings, flannels, print cloth yarn fabrics, osnaburg cloth, and tobacco cloth is assured for specified food and agricultural uses by the WPB. Essential uses include: packaging of cheese; production of milk strainers and filters; covering of tobacco seed beds and shade-grown tobacco; and manufacture of cotton picking sacks.

FURTHER EXPANSION FOR EGG DRYING. (American Egg & Poultry Review, September) During recent weeks there has been a further expansion in the facilities for drying eggs throughout the country. Additional plants are under construction and they are expected to get into production before the end of the year. According to a recent government bulletin, the WPB in mid-summer allocated materials necessary to provide for an increase of approximately 110,000,000 lbs. of dried egg production annually over and above the then estimated drying capacity of about 315,000,000 lbs. This was computed on the basis of 300 operating days of from 20 to 22 hours each. The final total production then would be equivalent to 425,000,000 lbs. per year. This is a stupendous figure, and it compares with a production of about 50,000,000 lbs. prior to the spring of 1941, or an increase of more than 800 percent.

FERTILIZER ATTACHMENT. (Successful Farming, October) Something distinctly new in application of fertilizer to the bottom of the plow furrow is attracting widespread interest. The attachment for gang plows is being tested on 15 Illinois farms. Tubes run directly from the fertilizer container to a point just behind the plow blades. Deeply placed fertilizer enables plants to continue to grow during dry periods. Yields are increased because fertilizer is more accessible to the roots, labor and time are saved, and injury to the crop from fertilizer "burning" is avoided. Experience with this method of application has brought uniformly good reports from New York, New Jersey, Ohio, and Indiana on a wide range of soil types and for many kinds of crops--ranging from truck to soybeans. The attachment can be installed on a plow in less than 15 minutes' time.

MILK FOR MALTA. (The Dairy World, September) The first shipment of powdered whole milk sent abroad by the Agricultural Marketing Administration is helping to sustain allied soldiers fighting for freedom at Malta. Enough powdered whole milk was delivered in June to supply that garrison with more than $2\frac{1}{4}$ million quarts of milk--a vital food that means better health and steadier nerves for people bombed relentlessly. To "make" a quart of milk that tastes very much like pasteurized milk and has approximately the same food value, all they need to do is to add $4\frac{1}{2}$ ounces of the powdered whole milk to a quart of water.

WHEN FOOD IS SCARCE. (Journal of the American Veterinary Medical Association, September) Shortage of food is more impressive than air raids. The air raid comes to an end while the food shortage is there every day with unmeasurable effect on the morale and physical fitness of the people. In England, policemen go from house to house collecting kitchen waste and cook it in pots at the police stations for the feeding of pigs raised in odd corners to augment the owners' officially-restricted rations. In the country, school children comb the woods for acorns to feed pigs. This food-making project is operated by 13,000 pig clubs which last year produced 3,000 tons of delectable bacon, not to mention the raising of chickens and rabbits and back-yard vegetables in many a nook. Regrettable as it is to relate facts which must give considerable comfort to the enemies of the Allied Nations, the need for doing so is self-evident to the small army of American animal-disease fighters, whose work is precisely that of preventing food shortage and all of its alarming ramifications.

"TAILORING OIL". (Science Service, September 8) War-caused shortage in such oils as coconut, palm, Chinawood and perilla need not worry us much in the future, as soon as general use begins to be made of a method for "tailoring" any kind of oil we want out of any kind of domestically-produced vegetable oil or animal fat we happen to have. The new method has already passed through the critical pilot-plant stage into the beginnings of commercial production. It depends on the fact that any given natural oil is really a mixture of several different oils. All commonly used food and industrial oils have been thoroughly analyzed, so that we know pretty well what they are made of. It is possible to separate these oils into their respective fractions by using solvents that will take out certain fractions and leave others. Then the fractions can be recombined in any way desired. Thus, it has been possible to split common linseed oil into two fractions, one of which resembles China-wood oil while the other is like soybean oil. Soybean oil in turn can be split into fractions resembling linseed and cottonseed oils, and so on, with all the natural oils and fats.

NEW RUBBER PROCESS FOUND. (N.Y. Herald-Tribune, October 8) A new chemical process for reclaiming rubber to give recapped tires much longer life has been announced by a Boston Rubber Company. The process will be made available to reclaiming companies without payment of royalties for the duration of the war. The rubber company says the process reduces cooking from 20 hours to 12 minutes, eliminates heat and oxygen treatment which destroyed most of the reclaimed rubber and extends the life of the tires to 18,000 miles instead of the 5,000 to 10,000 now obtained.

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U. S. Department of Agriculture

The Digest

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Washington, D.C., October 26, 1942

WEATHER MOSTLY FAVORABLE. (Weekly Weather and Crop Bulletin, October 21) Aside from the heavy, damaging rains in the middle Atlantic area which stopped all field work and did considerable crop damage, and the interruption to farm work in a considerable southwestern area, weather conditions were again about ideal for outside operations and seasonal farm work made excellent progress, considering the scarcity of labor during the week ending Oct. 21. Except in limited areas, principally in parts of Texas, Oklahoma, and Kansas, the southwestern rains were decidedly helpful and soil moisture conditions are now favorable extensively. In the East heavy rains did considerable damage by erosion and flooding of lowlands, principally in northern Virginia, eastern West Virginia, and a few other localities. Between the Appalachian Mountains and Mississippi River and also in much of the South, another dry week has somewhat extended the need for rain, while in the upper Mississippi Valley the soil is becoming dry and hard. Also, droughty conditions continue in the Pacific Northwest. Rains have benefited the range in much of the great western grazing area.

SECRETARY WICKARD GREETES CHINESE COOPERATIVES. A stirring message to the Chinese Industrial Cooperatives on their Fourth Anniversary has been cabled to China by Secretary Wickard. Praising the magnificent fight which the people of China are waging against the Japanese invaders, he pointed out that China has been fighting the longest of any of the United Nations. "She has fought against heavy odds and has suffered tremendous reverses, but China still is fighting for her freedom and in the long run we know she will win." Pointing out that modern armies cannot fight without guns, machinery and clothing and that China has been cut off from these supplies almost completely, he said: "The Chinese Industrial Cooperatives have supplied much of the need for essential war materials. As Secretary of Agriculture," he said, "I express the admiration of American farm families and of all other Americans to the workers and leaders of the Chinese Industrial Cooperatives. The people of all the United Nations, as well as the people of China, have good reason to celebrate the fourth anniversary of the C.I.C."

In the last four years the CIC has set up more than 2,400 small factories throughout 18 provinces of free China. These worker-owned-and-run cooperatives turn out blankets, uniforms, farm implements, small arms, food products, tools, textiles, etc., worth \$1,250,000, each month. Experimental laboratories set up by the CIC investigate new uses for local raw materials and the manufacture of desperately-needed products for civilians and the army. One of the outstanding experiments has been the use of ramie fiber to replace cotton in those districts where cotton is difficult to grow. Through the use of a special de-gumming process, ramie can now be woven into surgical gauze. Another successful experiment has been the use of teasels to replace steel wire card clothing. Many farmers who find their incomes inadequate due to inflation supplement their farm incomes by forming part-time spinning and weaving cooperatives.

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RESEARCH HELPS. (Food Industries, October) A measure of the value of research is found in almost every aspect of the war. In the food field the work of the Research Laboratory of the Quartermaster Corps has accomplished notable results. Boneless frozen beef furnishes a splendid example, for the Army's beef requirements if shipped as frozen quarters, 1917-1918 style, would need 66,000,000 lb. more freight-carrying capacity. In volume saved (which is vital in marine shipments), the saving in 1942 will amount to 8,300,000 cu. ft. of space. One way of licking the overseas shipping problem is the foregoing. Another way is the method of concentrating the food by the process of dehydration. This will apply, not only to Army shipments, but to Lease-Lend shipments to a much greater extent.

NEW SPRAY FOR BARK BEETLES. (Agricultural News Letter, September-October) A new and highly effective chemical spray for control of bark beetles on certain species of western pine will, when available in quantity, eliminate the hazardous and expensive method of destroying the immature broods by fire. However, orthodichlorobenzene, a chemical used in the spray, is in demand for war purposes, according to Du Pont chemists, so that widespread use of the beetle spray may not take place for some time to come. The new penetrating beetle spray, consisting of one part by volume of orthodichlorobenzene and four parts of ordinary Diesel oil which, when used on infested trees of thin-barked species, kills the insects. The oil acts primarily as the vehicle and penetrant, and the orthodichlorobenzene as the lethal agency. Use of this spray reduces labor requirements and eliminates hazardous burning.

WILT-RESISTANT WATERMELON. (Market-Growers Journal) Growers in the Newberry, Florida area have received some excellent results from plantings of the new wilt-resistant watermelon developed at the Florida agricultural experiment station. Two of these plantings were of the Blacklee variety and showed such good results that one grower could have harvested and sold two carloads, but rather he chose to leave them for full observation. The Blacklee melon is dark green in color, rather long and somewhat thicker than the Watson variety. This melon has a deep red flesh and black seeds. Those that have tasted the Blacklee melon declare it superior in flavor to many of the other shipping melons. The flesh is red to within three-quarters of an inch of the outer skin, but because of the exceptional toughness of the rind experienced watermelon men say it will be an excellent shipper.

TWO EGGS OUT OF 15 FOR LEND-LEASE. (The U.S. Egg & Poultry Magazine, October) Out of every seven and one-half dozen eggs produced in the United States this year, at least one dozen will be dried to supply Lend-Lease needs. The nation will produce between 4,200,000,000 and 4,500,000,000 dozen eggs in 1942, according to USDA estimates, and nearly 600,000,000 dozen eggs will move into drying plants. Purchases of the dried egg powder by the Agricultural Marketing Administration are expected to reach 200,000,000 pounds in 1942, and it takes three dozen shell eggs to make a pound of whole egg powder. In addition to AMA requirements for our allies, our own armed forces will need millions of pounds of dried egg this year. This additional use may increase the proportion of eggs used in drying plants to possibly one out of each six.

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SULFA DRUGS IN VETERINARY MEDICINE. (The North American Veterinarian, October) Further evidence that the sulfa drugs are assuming importance in veterinary medicine may be seen in the studies which indicate that sulfaguanidine possesses considerable merit as a therapeutic agent in treating the infectious enteritis complex in swine.

BRITISH GIRLS PRODUCE FOOD. (The Prairie Farmer, October 3) Forty thousand girls from British cities have joined the army--the land army which is charged with producing food. The girls are dressed in "an unbecoming green outfit with ballooned breeches," are paid \$8.40 a week, out of which they must spend about \$4.75 for board and room. And they must be doing a cracking good job. Average wheat yield is 34 bushels an acre--compared to an average yield of 17 to 19 in the United States. British authorities say that the man-hour production of their farm labor is 50 percent higher than that of German farm labor.

CORK FROM SUGAR CANE. (Scientific American, October) Sugar cane from Louisiana has been called upon to take the place of cork from war-encircled Spain to help protect the nation's supply of perishable foodstuffs. From the fibers remaining after the sugar juices have been squeezed from the cane stalks, a new kind of cold-storage insulation has been developed. Its ability to keep out heat is said to be equal to corkboard's. It is cheaper, stronger, and the supply of raw material far exceeds all possible needs of the United States and its allies. More than a year ago, as the war gradually strangled the flow of cork bark from Spain's trees to industry in the United States, research men began seeking a satisfactory substitute for corkboard insulation. To match cork's ability to slow down the passage of heat, the research men mixed the cane fibers in selected lengths and thicknesses, then wove and felted them into half-inch insulating boards of a low density. To equal cork's resistance to moisture, the individual fibers, before being felted into boards, are sterilized, waterproofed, and then protected from dry rot and fungus growths by the patented Ferox process. To provide further resistance against moisture, the half-inch boards are laminated together with weather-resistant special asphalts between layers. An additional coating of asphalt is then applied to the outer surfaces. Thus, a two-inch thickness of insulation has five moisture-resistant asphalt membranes, one on each outer surface and three between the boards.

BALING WIRE RECLAIMED BY MACHINE. (University of Calif., Clip Sheet, Oct. 6) A machine which will reclaim used baling wire and make it available for use again, has been devised by the University of Calif., College of Agriculture. The machine, simple in operation, easy to manufacture and small in cost, will make available for re-use thousands of pounds of baling wire, it is believed. Success of the machine is based on the supposition that baling wire in use will be cut where it has been looped and twisted in fastening. The dangling end with its loop is clipped off and the loop on the wire then is placed over a pin and the other, bent and twisted end, is placed in the clamp of the machine. The wire, being ductile, is straightened and stretched to its original length. The process may be repeated perhaps two or three times, before the limit of stretching is reached. Since the machine is cheap of construction, every farmer who uses baling wire can well afford to reclaim his wire, rather than purchase new stock, even if it were available.

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POWDER AND MEAT FROM WHEAT. (Science Digest, November) Powder for the guns and meat for the men who shoot them can be obtained from the same bushels of grain. This variant of eating your cake and having it too is readily explained. First, wheat and corn are fermented to make alcohol, a necessary ingredient for smokeless powder. Then the residue, with much of the starch gone and thereby proportionately richer in muscle-building proteins, is fed to livestock. Yeasts, which of course multiply enormously during fermentation, add their contributions to this valuable feedstuff. They increase its content of vitamins and of at least three of the amino acids that are the building-blocks of protein, namely lysine, arginine and histidine. Natural grain proteins are deficient in several of these essential amino acids. The yeasts make good this lack.

NEW SHOES FOR MOUNTAIN TROOPS. (Hide and Leather and Shoes, October 10) The Quartermaster General's Office has announced that two new types of footwear will soon be issued to mountain troops who do difficult climbing on cliffs where boots with metal cleats are not satisfactory. Both types, developed by the Quartermaster Corps, permit the wearer to get a firm foothold by digging their toes deep into crevices which are too small for leather boots. Type number one is a canvas top, rubber soled shoe, very similar to the standard basketball shoe but with considerably more traction. The other shoe, especially designed for use on wet, rocky terrain, has a leather top and a rope sole. A series of service tests, conducted under exacting field conditions, preceded the acceptance of the new footgear for Army use.

MILK BEST SOURCE OF RIBOFLAVIN. (The Moos, October) "Milk is the most important regular source of riboflavin in daily meals," reports National Dairy Council. For the average healthy man, woman, and child, riboflavin is needed for growth and normal nutrition. Riboflavin is known also as Vitamin G. Research workers report that a deficiency of this vitamin may result in a waste of the products of metabolism. A recent study reveals that one quart of milk furnishes most of the riboflavin needed by persons of all ages. Other research indicates that meals containing insufficient quantities of riboflavin for good nutrition appear to be much more common than is generally realized.

TOBACCO GROWING IN OKLAHOMA PROVES SUCCESS. (Lawton, Okla., Oct. 13, United Press) J. B. Morris of Kentucky has planted a tobacco crop on his farm here in southwestern Oklahoma. Tobacco growing in Oklahoma has been considered out of the question and natives of the state laughed at the idea, but Morris is proving that the high winds and drouth sector of the Sooner State is a good place to produce tobacco. A small field of 400 plants, out-doing in quality the crops he produced in Kentucky, home of the nation's finest tobacco, is now in the making. The plants are five and one-half feet tall in some places and will average four feet. The normal plant in Kentucky is three and a half feet in height. The leaves here measure as much as 30 inches in length and 20 inches in width. Raising tobacco is quite an art, even in Kentucky and here in southwestern Oklahoma, a producer must take into consideration the highwinds and drouth.